Listing of Claims

Claim 1 (currently amended) A method for carrying out soft handoff of a mobile station from a first base station to a second base station both served by a wireline subnet having a link layer different than the link layer of the wireless network serving the mobile station, each of said base stations having a wireline link layer address and said mobile station having a wireless MAC IP address, the method comprising the steps of :

storing a shadow address in the first base station and the second base station, the shadow address corresponding to the mobile station, ~~and~~ having a format compatible with the link layer of the wireline subnet, and being distinct from said base station link layer addresses and said mobile station wireless MAC address, said step of storing includes assigning the shadow address by said first base station,

transmitting a frame containing the packet from ~~the~~ a sending device over the wireline subnet using the shadow address as the link layer destination address of the packet; and

concurrently processing the frame in the mobile station as received from the first base station and the second base station.

Claim 2 (cancelled)

Claim 3 (currently amended) The method as recited in claim 2 ~~wherein the transmitting includes~~ further including communicating the shadow address from at least one of the base stations to the sending device in response to an address resolution request by the sending device.

Claim 4 (currently amended) The method as recited in claim 1 further comprising, after the step of transmitting, the step of simultaneously sending the packet, ~~using a link layer frame compatible with the link layer frame of the wireless network,~~ from both the first base station and the second base station to the mobile station.

Claim 5 (currently amended) The method as recited in claim 1 wherein ~~the mobile station has an IP layer address and~~ the step of storing includes storing the IP layer address, the shadow address, and the wireless link layer address as entries in a watch list for the mobile station.

Claim 6 (currently amended) The method as recited in claim 1 further comprising, prior to the step of storing, the step of sending the shadow address from the first base station to the mobile station and storing the shadow address in the mobile station.

Claim 7 (currently amended) The method of claim 6 further comprising, ~~after the sending,~~ the step of transmitting the shadow address to the second base station from the mobile station.

Claims 8 - 10 (canceled)

Claim 11 (currently amended) A method for servicing a mobile station homing on a first base station and roaming to a second base station both served by a wireline subnet having a link layer different than the link layer of the wireless network serving the mobile station, each of said base stations having a wireline link layer address and said mobile station having an address, the method comprising the steps of

assigning a shadow address to a the mobile station by the first base station, the shadow address having the same format as the link layer address of the subnet and being distinct from said base station link layer addresses and said mobile station address,

sending a request from the mobile station to associate with the second base station,

sending a message over the subnet from the second base station to locate the first base station having the assigned shadow address, and

responding to the message by the first base station with the shadow address.

Claim 12 (currently amended) The method as recited in claim 11 further comprising, after the step of sending, the step of negotiating between the first base station and the second base station a replacement shadow address if the shadow address assigned by the first base station conflicts with a pre-existing shadow address handled by the second base station.

Claim 13 (currently amended) A method for carrying out ~~IP layer~~ a soft handoff of a mobile station from a first base station to a second base station both served by a wireline subnet having a link layer different than the link layer of the wireless network serving the mobile station, each of said base stations having a wireline link layer address and said mobile station having an address, the method comprising the steps of

assigning a shadow address to the mobile station, the shadow address corresponding to the mobile station, ~~and~~ having a format compatible with the link layer of the wireless subnet, and being distinct from said base station link layer addresses and said mobile station address,

storing the shadow address in both the first base station and the second base station,

communicating the shadow address from at least one of the stations to ~~the~~ a sending device in response to ~~a~~ an address resolution request by the sending device,

transmitting a frame containing the packet from the sending device over the wireline subnet to both the first base station and the second base station using the shadow address as the link layer destination of the packet,

propagating the packet from the first base station to the mobile station using the IP layer of the wireless network and ~~concurrently~~ propagating the packet from the second base station to the mobile station using the IP layer of the wireless network, and

concurrently processing the packet as received from the first base station and the packet as received from the second base station in the mobile station.

Claim 14 (currently amended) The method as recited in claim 13 wherein ~~the mobile station has an IP layer address and~~ the step of storing includes storing the IP layer address, the shadow address, and the wireless link layer address as entries in a watch list for the mobile station.

Claim 15 (original) The method as recited in claim 14 wherein the address resolution request includes the IP layer address of the mobile station and the communicating includes looking up the shadow address in the watch list corresponding to the IP layer address of the mobile station and sending the shadow address in response to the address resolution request.

Claims 16-18 (canceled)

Claim 19 (currently amended) Circuitry for carrying out soft handoff of a mobile station from a first base station to a second base station both served by a wireline subnet having a link layer different than the link layer of the wireless network serving the mobile station, the circuitry comprising

a storage ~~device~~ devices for storing a shadow address in the first base station and in the second base station, the shadow address corresponding to the mobile station , ~~and~~ having a format compatible with the link layer of the wireline subnet, <u>and being distinct from the link layer addresses of the base stations and the mobile station MAC address,</u>

a receiver for receiving a frame containing the packet transmitted from ~~the~~ a sending device over the wireline subnet to both the first base station and the second base station using the shadow address as the link layer destination address of the packet, and

a processor <u>in said mobile station</u> for concurrently processing the frame as ~~receive~~ <u>received</u> from the first base station and the frame as received from the second base station ~~in the mobile station.~~